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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,046	10/19/2001	John B. Taylor	396542	1834
7590 Kenneth D Goetz Lathrop & Gage LC Suite 2800 2345 Grand Boulevard Kansas City, MO 64108				
			EXAMINER	
			LEVY, NEIL S	
			ART UNIT	PAPER NUMBER
			1615	
			MAIL DATE	DELIVERY MODE
			12/08/2010 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/040,046

Applicant(s)

TAYLOR, JOHN B.

Examiner

NEIL LEVY

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Defective Reissue Oath/Declaration, 37 CFR 1.175

This reissue was filed without a reissue oath signed by the inventor. The inventor signed as the assignee. Perhaps he did not want to sign for desired broadening as an inventor. The reissue oath/declaration filed 10/16/07 with this application is defective (see 37 CFR 1.175 and MPEP § 1414) because it is an "Assignee Oath" and not an "Inventor Oath". A broadening reissue application must be applied for by all of the inventors (patentees), that is, the original reissue oath or declaration must be signed by all of the inventors. See also MPEP § 1414.

So both Taylor & Ferrell have signed as assignee, & on behalf of assignee, but no inventor has signed off AS AN INVENTOR.

Rejection, Defective Reissue Oath or Declaration

Claims 1-14 are rejected as being based upon a defective reissue [2] under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175

Rejection, 35 U.S.C. 251, Broadened Claims Filed by Assignee

Claims 1-14 are rejected under 35 U.S.C. 251 as being improperly broadened in a reissue application made and sworn to by the assignee and not the patentee. Here the added method claims are broader than the issued composition claims 1-2. A claim is

broader in scope than the original claims if it contains within its scope any conceivable product or process which would not have infringed the original patent. A claim is broadened if it is broader in any one respect even though it may be narrower in other respects. Any amendment (currently of 11/03/2010) resulting in claims broadened must be accompanied by a supplemental oath that errors arose without any deceptive intent.

Claim Rejections - 35 USC § 112

Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

If the second formula is, as claimed, a salt, then one of R1 and R3 must be K. This is not claimed. Please amend.

If not amended, applicant is using "salt" in a non-accepted manner, when both R1 & R3 are H, what we have is an acid, not a salt. See attorneys submission of the free dictionary salt definition -" -replacing all or part of the hydrogen ions of an acid with metal ions- ". See also examiner's submission of HACKS; phosphate salts are identified, As is phosphoric acid.

Note we now have a fertilizer composition; this is high broadening indeed . The R1

"where R1 is selected from the group consisting of an alkyl radical containing from 1 to 4 carbon atoms, halogen-substituted alkyl or nitro-substituted alkyl radical, an alkenyl, halogen-substituted alkenyl, alkynyl, halogen-substituted alkynyl; alkoxy-substituted alkyl radical, and ammonium substituted by alkyl or hydroxy alkyl radicals" is described in the specification not as a fertilizer, but as antifungal, antibacterial.

.Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. We find no indication that $\text{NH}_3\text{H}_2\text{PO}_3$ OR $(\text{NH}_3)_2\text{HPO}_3$ are fertilizers. Note that the only fertilizers tested were tested in aqueous solution at 0.5 - 2%.

Claims 6-8 and 12-14 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

.No preparation is disclosed as is claimed. Item C at Column 4 of the patent states that solutions of the compounds are mixed. No KOH is evident, as the solution of

the compounds at A. and B. are the claimed phosphonates and water, and phosphates and water.

Applicant has made a new process of preparation, as far as examiner can determine. Items A & B state that KOH neutralizes the H_3PO_3 , & reacts with KH_2PO_4 at B; C recites no KOH as being present.

Claim Rejections - 35 USC § 102

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Spraker-4350770.

(a) Spraker discloses a basic salt solution in Example I (column 68) which defines a composition that fully meets the limitations of the instant claims.

The monobasic potassium phosphate (K_2HPO_4) is present at a concentration of 52 mM. This same basic salt solution also contains dibasic phosphite (KH_2PO_3) at a concentration of 25 mM. These concentrations of potassium phosphite and potassium phosphate fall within the range of "about 20 ml to about 5% v/v" in claim 1. The open language of "comprising" permits the additional components of the Spraker compositions which include ammonium chloride, ammonium sulfate, magnesium sulfate, and ammonium nitrate. The intended use as a fertilizer is interpreted to mean that the fertilizer cannot be toxic to plants and stimulates plant growth. The growth stimulating activities are considered to be an inherent property of any composition

containing all of the required ingredients at the stated concentrations.

See *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980). See also *In re May*, 197 USPQ 601,607 (CCPA 1978).

The instantly claimed fertilizers are anticipated by the Spraker salt solution (col. 10, lines 60 - 68) because the Spraker salt solution contains potassium phosphite and potassium phosphate at a concentration of between about 20mM and 5% vol/vol. The fungicidal activity and plant growth stimulating activities are deemed to be an inherent characteristic of any composition which meets the concentration limits of phosphite and phosphate, the molar ratio of phosphite to phosphate in the claims, and which lacks any toxic effects on plants generally..

Claim Rejections - 35 USC § 103

Claims 1,2, STAND rejected under 35 U.S.C. 103(a) as being unpatentable over Spraker- 4350770.

Claimed is a composition, its use obvious to test for to determine optimal concentrations.

Example I meets the instant claim 1 requirement. SPRAKER shows pH as low as 5.5- (col.9, lines 13-17) that meets the instant claim 5 to 7 ,and the functional advantage as a foliar spray is not claimed. One in the art would find it obvious to test to determine effective amounts.

Applicant should show the range of concentrations, inclusive of pH 5.5-7.0, would not encompass the instant claimed amounts of at least 20nM.

It would have been well within the skill of one of ordinary skill in the art to have applied the combination of potassium phosphonate salts and potassium phosphate salts to plants with the expectation that said combination would have been effective in promoting the growth of plants. Further, one of ordinary skill in the art would have been motivated to vary the amount or concentration of said salts, including the amounts or concentrations falling within the claimed values, as desired, depending on the host plant and the climate conditions. This would have simply been routine experimentation by the artisan to find the optimal concentration of phosphite and phosphate. Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made, with adjustment of pH as necessary to maintain a solution of the composition. Claims 1 & 2 no longer have PH limitations; they have been further broadened.

Attorneys statements that SPRAKER has no KH_2PO_3 is based on the opinion of

STRAKER, that his patent was in error, & the KH_2PO_3 should have been KH_2PO_4 . SPRAKER states that his opinion is based on reference to a CURTISS DOCUMENT (EXHIBIT C). The patent refers to this document as showing *Pseudomonas* growth on glucose or acetate salts, with ammonium. Examiner is not persuaded that the US 4350770 patent should be held invalid in this regard by the patentee, & by attorney and applicant as regards this case. The patent is a valid reference, irrespective of the patentee's opinion & attorney's belief in that opinion.

Claims 1, 6 & 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fenn et al '84 & Dolan et al '88, with evidence exemplified by Barlet-5070083.

The rejection as it stands is repeated for applicant's ready review.

Fenn discusses Fosetyl solutions at high concentrations (first paragraph, p. 606) as known to be antifungal, dependent upon the particular fungal species &/or strain. Fenn's work is at low dilutions, directed at mechanistic determinations. Barlet is an example of the high levels of known use of Fosetyl, 1-120 g/l, applied to foliage(col. 3, lines 15-250. K phosphates were not addressed. Dolan shows how one in the art can perform testing of effects of phosphorus K acid compounds, & also tests a mix with K Phosphate, in aqueous solution, to identify efficacy in control of fungus. Results (table 4 of Dolan) would lead one in the art to the common sense expectation that more is better. Simple testing of dose response effects of a strain & species of fungus of concern would permit one in the art to determine an optimal range of K Phosphate/Phosphonate concentrations.

Claims 1, 6& 12 STAND rejected under 35 U.S.C. 103(a) as being unpatentable over Barlet 5070083, Ducret et al 4139616, Horriere et al 5169646, Lovatt 5514200, Vetanovetz et al 53905418 and Smilie et al '89.

Here, too, we find one in the art would be aware of these references & straight forward testing would enable one to achieve desired effects, in accord with standard practice in the horticultural arts. These references, of record, teach the instant Phosphonate salts

are well known, art recognized fungicides (Bartlett, Ducret & Horriere) while Lovatt & Vetanovetz likewise teach the Phosphates are well known, art recognized fertilizers.

Smillie shows the effectiveness of phosphite salts are enhanced with phosphates (p 924 of Smillie).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made desiring to utilize fungicidal control means on plants, to use any of art recognized means, modified as desired to increase stability, dispersibility, compatibility of ingredients, processing ease, decreased toxicity to handlers, increased toxicity to fungus, & to provide added benefit; fertilizer & fungicide in one application.

The particular manner in which the compositions are made is not seen to be of patentable weight. Simple testing would enable one in the art to determine the optimal amounts needed, & is in the purview of the artisan to perform. See KSR V TELEFLEX @ 82 USPQ 2d @ 1385.

The amounts and proportions of each ingredient are result effective parameters chosen to obtain the desired effects. It would have been obvious to vary the form of each ingredient to optimize the effect desired, depending upon the particular species and application method of interest, reduction of toxicity, cost minimization, enhanced, and prolonged, or synergistic effects; neither is Ph an issue, the claims have been broadened to exclude Ph. Applicant has not provided any objective evidence of criticality, nonobvious or unexpected results that the combination of the particular ingredients' or concentrations provides any greater or different level of prior art

expectation as claimed, and the use of ingredient for the functionality for which they are known to be used is not basis for patentability.

The instant invention provides well known old art recognized compounds, with well known art recognized effects, applied by well known art recognized methods to achieve improved control as is well known in the art.

Applicant argues the SMILIE reference showed the opposite of the claimed invention, and preponderance of evidence favors phosphate inhibiting the phosphite enhancement. However, examiner finds SMILIE shows one must test the specific strain of plant of concern to determine optimum concentration of phosphate, if any, to add to an intended phosphite.

It would have been well within the skill of one of ordinary skill in the art to have applied the combination of potassium phosphonate salts and potassium phosphate salts to plants with the expectation that said combination would have been effective in promoting the growth of plants and controlling fungal infections. Further, one of ordinary skill in the art would have been motivated to vary the amount or concentration of said salts, including the amounts or concentrations falling within the claimed values, as desired, depending on the susceptibility of the fungus, the extent of disease, the host plant and the climate conditions. This would have simply been routine experimentation by the artisan to find the optimal concentration of phosphite and phosphate. Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of

ordinary skill in the art at the time of the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references and clear motivation existed to combine the references.

Claim 1, 3-5, 9-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Thyzy et al. (4,075,324) in view of Reuveni et al. (J. Phytopathology, 141 : 337 - 346 1994), Reuveni et al. (Plant Pathology 44:31 - 39, 1995), Dunstan et al. (Physiol. Molec. Plant Path. 36:205 - 220, 1990), the Fenn Dissertation (1996), Walker (Fungic. Nematic. Tests, 1994), and the Fluid Fertilizer Manual (1995).

Thyzy et al. disclose fungicidal compositions containing monopotassium phosphite (KH_2PO_3) and compositions containing potassium phosphite (K_2HPO_3) at column 1, lines 52 - 56 and column 2, lines 32 - 36. It is disclosed that the above fungicidal compositions are generally not applied to crops alone, but are applied in combination with other materials, such as support, which can be a mineral material which facilitates the application to the plant and can be solid or fluid (column 8, line 60 - column 9, line 15). It is also disclosed that the above fungicidal compositions can be mixed with other fungicidal, anti-mildew phosphorous derivatives (column 8, lines 44 - 46). It is further disclosed that 0.5 g/L of KH_2PO_3 (compound 4) or K_2HPO_3 (compound 5) applied to plants prior to infestation with *Plasmopara viticola* afforded total protection and that 1 g/L of the same (6.3 mM of K_2HPO_3 and 8.3 mM of KH_2PO_3) applied after infestation completely stopped the development of mildew on the plant (column 2, lines

31 - 38 and column 6, lines 31 - 68). Finally, Thizy et al. disclose that doses of from 0.01 to 5 g/L are generally suitable but that the doses may vary within wide limits depending on both the virulence of the fungus and upon the climate conditions (column 8, lines 55 - 59). 5 g/L of K_2HPO_3 is 32 mM. 5 g/L of KH_2PO_3 is 42 mM. Thizy et al. discloses compositions of either potassium phosphite or potassium phosphate in the desired concentration range but fails to teach the specific combination of these two ingredients. Reuveni et al. (J. Phytopathology, 1994) disclose that K_2HPO_4 and KH_2PO_4 are each effective against the fungus *E. turcicum* on corn and that phosphates have exhibited effectiveness against *P. sorghi* and *S. fulginea* on maize and cucumbers, respectively, and are effective in enhancing the growth of plants (See entire document.) It is further taught that 100 mM of K_2HPO_4 or KH_2PO_4 was applied to said corn plants (page 339). Finally, it is disclosed that phosphates are not only fungicides but also fertilizers (page 338).

Reuveni et al. (Plant Pathology, 1995) disclose K_2HPO_4 and KH_2PO_4 are each effective against powdery mildew caused by *S. fulginea* on cucumber and that phosphates have exhibited effectiveness against *E. turcicum* and *P. sorghi* on maize and against various diseases in cucumber and are effective in stimulating plant growth (See entire document.). It is also disclosed that 25 mM of K_2HPO_4 or KH_2PO_4 was applied to said cucumber plants (page 31). Reuveni et al. teach that the properties of phosphates and potassium salts thereof make them appropriate for use as foliar

fertilizers (page 31). The two Reuveni et al. references teach the effectiveness of potassium phosphate as a fungicide against several types of fungi at a concentration of 25 mM. However, there is no teaching of combining potassium phosphite and potassium phosphate into a single composition at the claimed concentration as an effective fungicide and fertilizer.

Dunstan et al. disclose that the active toxophore of fosetyl-AL is phosphonate produced by catabolism of fosetyl-Al in the plant (page 205). Additionally, it is taught that phosphonate supplied as the potassium salt (Foli-r-fos ®) provides as effective control of many pathogens as fosetyl-Al (page 205). Thus, Dunstan et al. emphasizes the effectiveness of phosphate ion as an antifungal agent but there is no teaching of the combination of potassium phosphite and potassium phosphate.

The cumulative teachings of Thizy et al., Reuveni et al. '94 and '95, and Dunstan disclose the effectiveness of potassium phosphite and potassium phosphates individually as possessing both fungicidal and fertilizer activities but do not teach the specific combination of these two ingredients in the stated concentrations. The Fenn dissertation (1986) provides the missing piece of the obviousness rejection by disclosing the combination of phosphite and phosphate ion in a single composition for the treatment of fungal infections. The Fenn dissertation further teaches that fosetyl-Al and phosphorus acid (H_3PO_3) (from which phosphate ions are derived) are effective fungicides in the presence of potassium phosphates (pages 63 - 72). It is further

disclosed that the potential antagonistic effects of tissue phosphate levels on in vivo efficacy of phosphonate compounds have probably been over emphasized (page 72).

Additionally, it is taught in Fenn that in some cases disease control with H_3PO_3 in tomato seedlings inoculated with *P. palmivora* was enhanced when higher concentrations of phosphate were included in the treatments and that at some concentrations of H_3PO_3 , inhibition of mycelial growth in vitro was greater at 45 mM than at 15 mM phosphate with *P. capsici* and *P. parasitica* var. *nicotianae* (Ibid, pages 72 - 73).

Walker et al. also discloses that a combination of potassium dihydrogen orthophosphate (phosphate) and Foli-R-Fos 200 AC® (potassium phosphite), inhibited in vitro the growth of fungi and that the growth of *Phytophthora cactorum*, *P. cinnamom*, *P. citrophthora*, *P. megasperma* and *Pythium ultimum*, and was subject to significant PO_3/PO_4 interactions.

The Fluid Fertilizer Manual discloses that higher crop yields can be maintained by application of mixtures of pesticides, such as fungicides, and fluid fertilizers which control fungi while fertilizing the crop (Ch. 6, Section I, page 6-1). It is disclosed that one of the advantages of fluid fertilizers is the ease of preparation of stable, uniform mixes of fluid fertilizer with chemicals than can be applied uniformly and that this advantage greatly facilitates the simultaneous application of fertilizer and pesticide (Ch. 6, Section 1, 1.2, page 6-2). It is taught that it is known to combine fluid fertilizer with

fungicides (Ibid.) It is disclosed that the adoption of applying pesticides with fluid fertilizer is attributed to the savings of time, money and other resources, which is sound

agronomic management (Ibid.) It is taught that the combination of pesticide with fluid fertilizer has been shown to enhance crop growth synergistically because the presence of fertilizer makes possible quick, vigorous growth of the crop enabling the crop to more effectively compete with pests held in check by the pesticide, and/or the presence of the pesticides increases effective utilization of fertilizer (Ibid.) Finally, the

Fluid Fertilizer Manual teaches that in some cases, applying fertilizer with pesticides will enhance the effectiveness of the pesticide on its target (Ibid.)

In summary, Thizy et al.; Reuveni et al. ('94 and '95), Dunstan et al. collectively teach that potassium phosphates and potassium phosphites are effective individually as fungicides against Ascomycetes fungi and as fertilizers in concentrations that fall within the claimed amounts. Additionally, Fenn and Walker each disclose a composition of both phosphite and phosphate ions which were used as antifungal agents. Fenn further discloses that in some cases fungal disease control with phosphite can be enhanced with 45 mM phosphate. Walker discloses a fungicidal composition containing at most

10 mM potassium phosphite and 10 mM potassium phosphate. The Fluid Fertilizer Manual teaches that there is sound basis generally for combining fertilizers with pesticides which includes fungicides.

The difference between the above prior art and the claimed invention is that the prior art does not expressly disclose a method of controlling fungus disease in plants in vivo by applying to the plants the claimed amount (about 20 mM to 5% vol/vol) of potassium phosphonate salts in combination with potassium phosphate salts. However, the prior art amply suggests the same combination of the instant invention since the prior art discloses that the combination of potassium phosphonate and potassium phosphite salts exhibit in vitro activity against fungi (Fenn and Walker). The prior art further discloses that potassium phosphonates salts and potassium phosphites salts are each effective fungicides and fertilizers (Thizy et al., Reuveni et al. '94 and '95;

Dunstan et al.). The combination of fertilizers and fungicides as a single product for application on to plants is an efficient agronomic strategy (Fluid Fertilizer Manual). As such it would have been well within the skill of one of ordinary skill in the art to have applied the combination of potassium phosphonate salts and potassium phosphate salts to plants with the expectation that said combination would have been effective in promoting the growth of plants and controlling fungal infections. Further, one of ordinary skill in the art would have been motivated to vary the amount or concentration of said salts, including the amounts or concentrations falling within the claimed values, as desired, depending on the susceptibility of the fungus, the extent of disease, the host plant and the climate conditions. This would have simply been routine experimentation by the artisan to find the optimal concentration of phosphite and phosphate.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references and clear motivation existed to combine the references.

Claims 1-4, stand rejected under 35 U.S.C. 103(a) as being unpatentable over Thyzy et al. (4,075,324; Reuveni et al. '94 ; Reuveni et al. '95 ; Dunstan et al.; Fenn Dissertation ; and Walker as set forth above, and further in view of Lovatt -5,514,200.

As explained above, the combined references of Thyzy et al.; Reuveni et al. '94 Reuveni et al. '95 ; Dunstan et al ; Fenn Dissertation ; Walker; and The Fluid Fertilizer Manual render obvious fungicidal compositions comprising potassium phosphite and potassium phosphate at a concentration of about 20 mM to 5% vol/vol, or at least about 20 mM and a ratio of phosphite to phosphate ion of 0.001 to 1,000. The only substantial difference between the claimed compounds and instant invention is the requirement of a pH limitation of 5- 7.0 in order to permit solution & foliar application. The above references are primarily silent with regard to the desired pH of such solutions. However, Lovatt (5,514,200) discloses that a "foliage-acceptable pH for phosphorus uptake usually ranges between about 5.0 to about 7.0 ..." Lovatt explains that "At higher pH, between about 7.0 to about 7.5 there is reduced uptake of nutrients, although generally there is no plant damage." See column 3, lines 26 - 33 and column 4, lines 19 - 32.

Therefore, the person of skill in the art with the above references before him, would have found it obvious to have adjusted the pH of the fungicidal composition of potassium phosphite and potassium phosphate to either "less than 7.0" or to "equal to or less than 7.0" in order to prevent any damage to the plant and to prevent any reduction in the uptake of phosphorus by the plant. For the same reasoning, it would have also been obvious to have applied these same compositions with an approximately neutral pH to plants in order to control fungal disease and promote plant growth at the same time. The artisan would have had a reasonable expectation of success in controlling fungal disease and in promoting plant growth because the prior art teaches that both potassium phosphite and potassium phosphate are recognized fertilizers and fungicides.

Double Patenting

Claims 1,3-14 STAND rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. US006509041B2 . Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims encompasses the instant claims & would anticipate them.

Claims 1, 3-5,9-11 STAND rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2,4,5 of U.S. Patent No. 5800837. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims encompass the instant

compositions, ratios, & concentrations, thus besides stimulating growth, the patent would inherently meet the instant claim to control fungus.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Applicant's arguments filed 11/3/2010 have been fully considered but they are not persuasive. The arguments/remarks have been considered in the rejections retained. To the extent persuasive, rejections have been withdrawn. In regard to the 103 rejections over Barlet et al, and over Thyzy et al, in consideration of the Griffith study, examiner finds that one in the art would recognize the need to test the compositions in combination to maximize effects against a particular fungus of concern.

To the extent that applicant showed the variance in effects of single phosphate & phosphonite salts & their combinations @ 0.5 -2 % in solution, the amendment of claims to ,delete $\text{NH}_3\text{H}_2\text{PO}_3$, and $(\text{NH}_3)_2\text{HPO}_3$ and add Ph 5-7 at claim 2 ,and to specify the KH_2PO_3 , K_2HPO_3 , K_3PO_3 , and a second salt selected from the group consisting of KH_2PO_4 , K_2HPO_4 , and K_3PO_4 at claim 3, with the Ph of claim 4, and to include the 0.25% -5% of each salt in an independent claim 9, with the added incorporation of the claims 10 & 11 subject matter would then permit consideration for allowance, after filing of terminal disclaimers and giving due consideration for no exact claims to prior patents.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL LEVY whose telephone number is 571-272-0619. The examiner can normally be reached on Tuesday-Friday, 7 AM to 5:30 PM EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT A. WAX can be reached on 571-272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NEIL LEVY/
Primary Examiner, Art Unit 1615

12/03/2010